IntelliGrid$^{(sm)}$ Consortium

Wade Malcolm

Vice President of Power Delivery

Developing a Reference Design for Demand Response

California Energy Commission

February 1, 2005
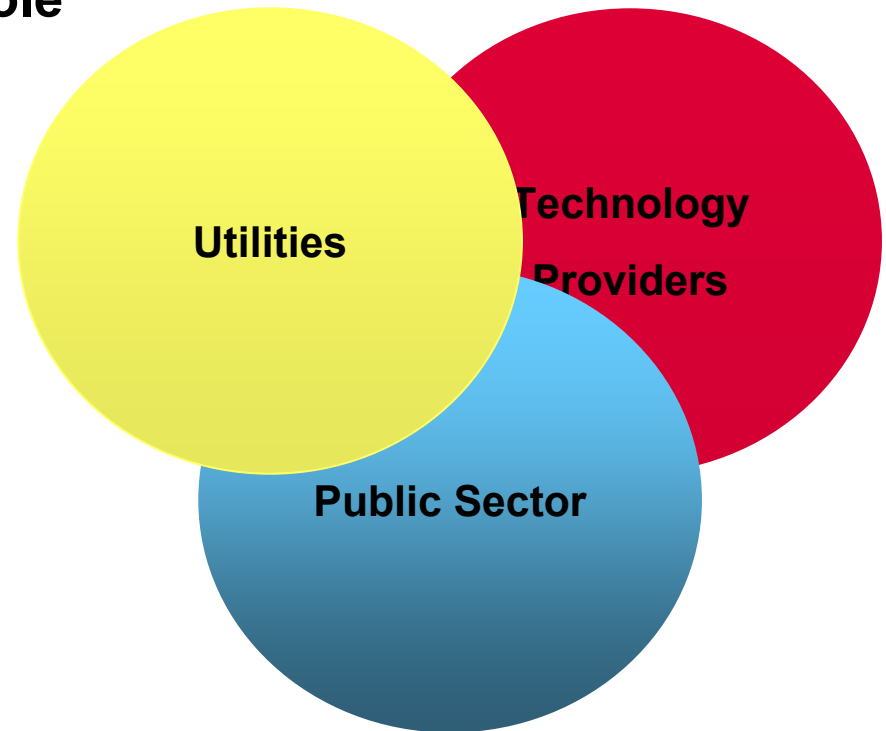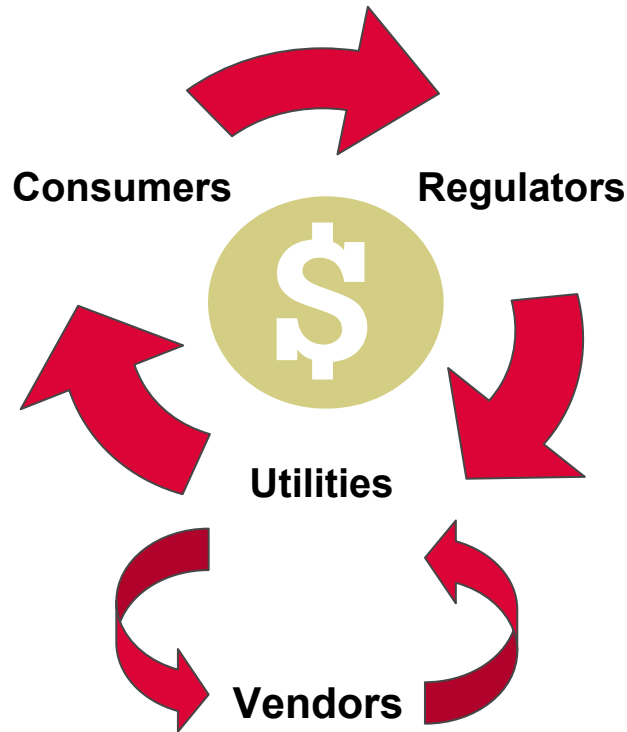
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IntelliGrid$^{(sm)}$ Consortium

Mission

To accelerate the transformation of the power delivery infrastructure into the intelligent grid needed to support our future society.
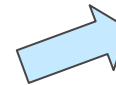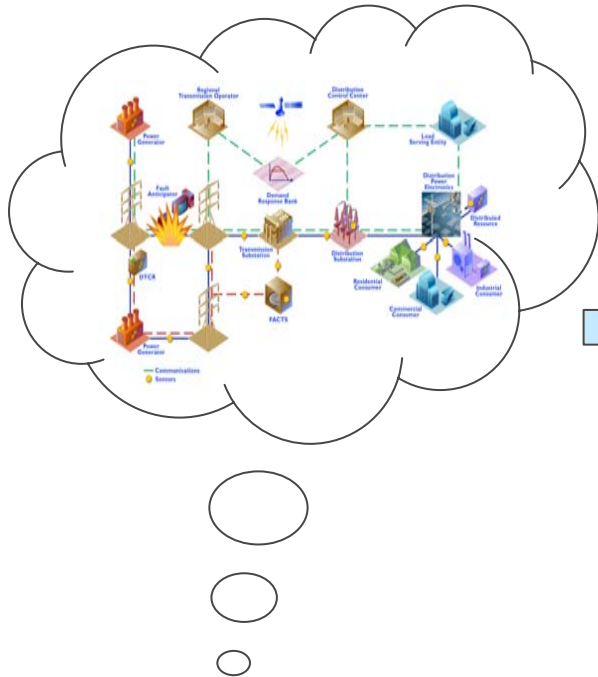
The IntelliGrid Consortium is a Public/Private Partnership
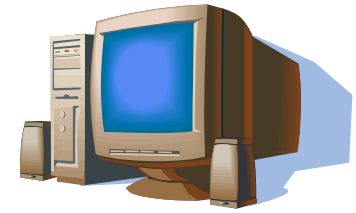
Each stakeholder has a critical role

Consumers

Regulators

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Utilities

Vendors

Utilities

Technology Providers

Public Sector

To affect change, we must collaborate to achieve goals beneficial to society
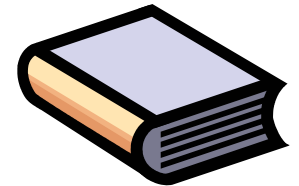
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IntelliGrid Architecture

Initial Results

Methods and Tools

Recommendations

| Establish the Vision of the Future Energy System | Work with Stakeholders to Refine Vision, Define Requirements and Analyze | Available for Download: www.EPRI-Intelligrid.com |

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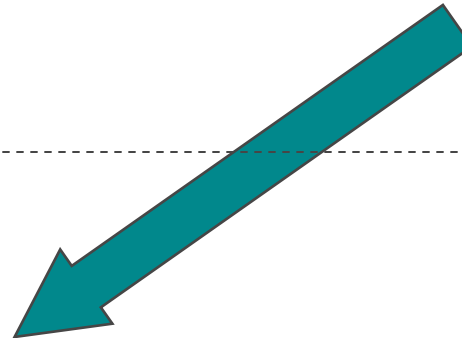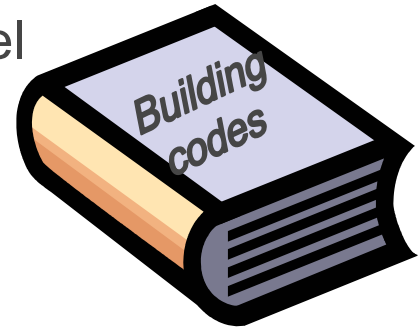# How IntelliGrid Architecture Can be Applied

Intelligrid
Architecture

Initial
Project

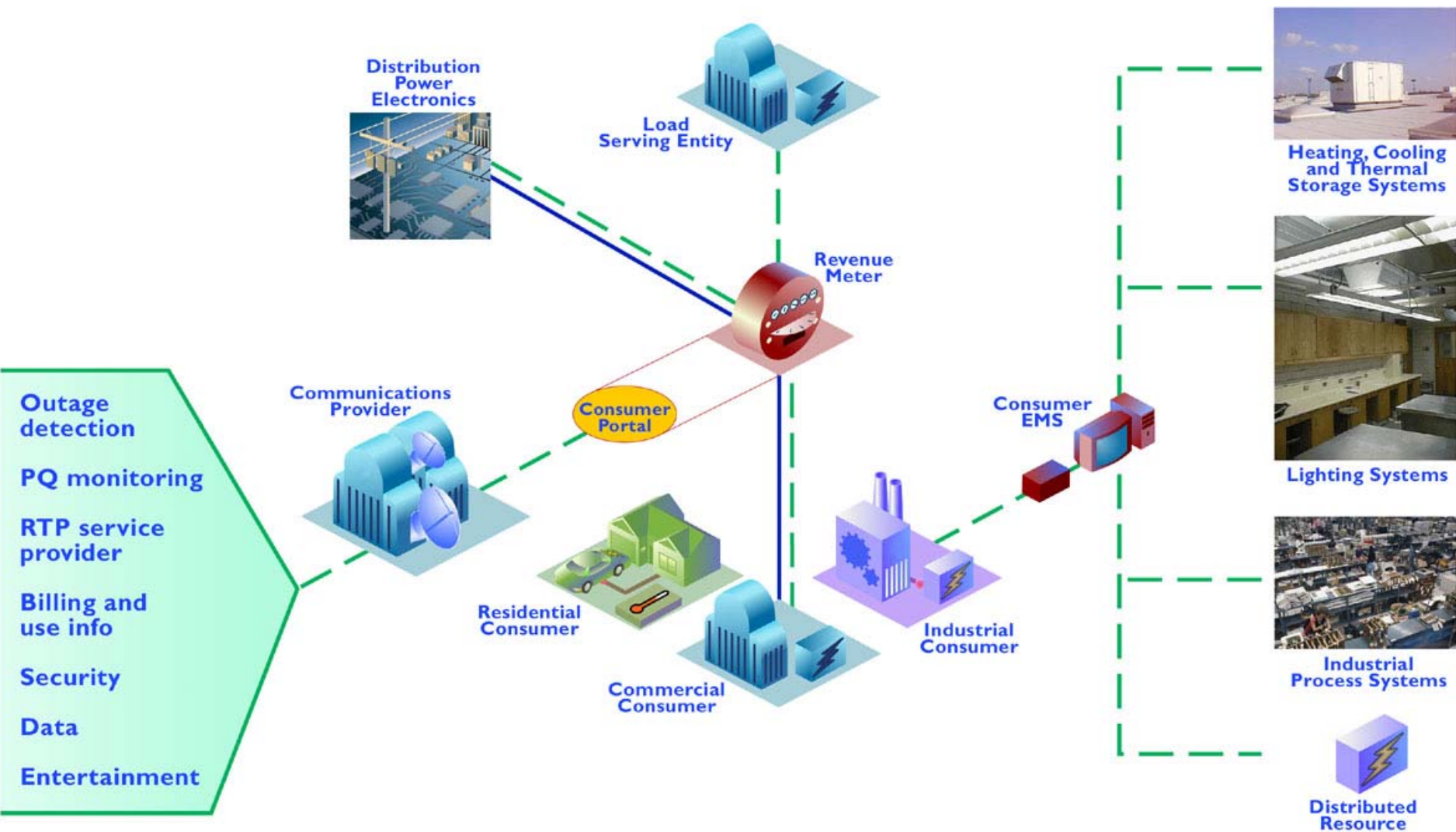Industry-Level
Architecture
"Building
Codes"

Building codes

Work with
ISOs &
Utilities to
Develop
Designs

Enterprise
Specific
Architectures and
"Blueprints"
For
implementation

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Consumer Portal

Appendix

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IntelliGrid Consortium Strategy

Lay the Groundwork

- Reach consensus on the needs of the power delivery system of the future and the technologies needed to meet those needs

Develop

- Develop open platforms around critical integrating technologies – such as communications and computing

Demonstrate

- Demonstrate key new capabilities of the system

Outreach

- Broadly disseminate results and coordinate with other R&D organizations

- Influence and contribute to relevant standards development efforts

- Inform regulators and policy makers

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The IntelliGrid Architecture

- An open, standards-based architecture for integrating the data communications networks and intelligent equipment needed to support the Power Delivery System of the Future

- Provides utilities and others with the tools and processes for designing communications and automation systems

- Recommends technologies and standards to use

- Completed June 2004

Available for Download and Public Use:

www.EPRI-intelligrid.com

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IntelliGrid Consumer Portal Project

- Define requirements so that vendors can build components and systems that are interoperable (open systems).
    - Information models, object models
- Define requirements so that systems will be expandable to meet needs of future service offerings.
- Engage stakeholders to create a consensus on these requirements definitions.
- Demonstrate the feasibility and performance of systems that meet these requirements.
- Move these requirements into the standards process to enhance the applications in the market.

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Consumer Portal Project Implications

- Wide variety of new services will be supported by the consumer portal.

- These will be facilitated by open standards for information exchange

- Previous efforts provide foundation
  - Intelligrid provides overall framework
  - DER/ADA provides more detailed methods for object model development

- Many activities under way in the industry
  - Must take advantage of these activities
  - Direct future work towards industry standards

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